Geometry
Lesson 13: Worksheet
Math for Standards

Name _____

Date _____

For each question, you need to find the answer and show your work. Each problem is worth 3 points: one for the correct answer, and two for showing your work. For some problems, you may just need to write out how you know you have the correct answer. Shapes are not drawn to scale.

1. Which statement is true? How do you know?

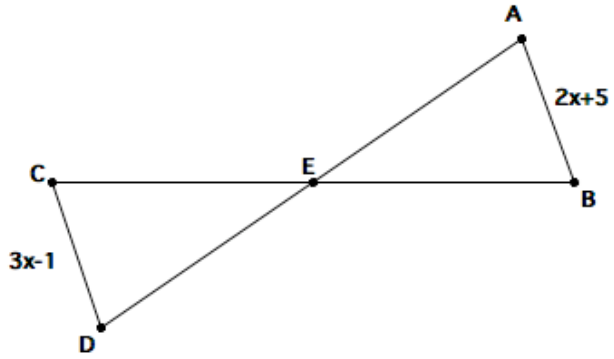
A. All rhombi are similar

B. All rectangles are similar

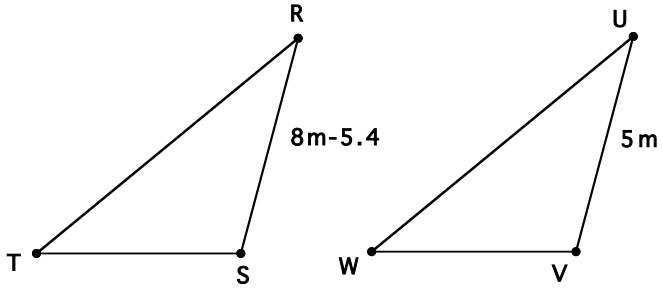
C. All parallelograms are similar

D. All squares are similar

2. $\triangle CDE \cong \triangle BAE$. Find the lengths of $\overline{AB}$ and $\overline{DC}$.

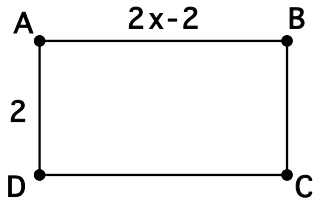


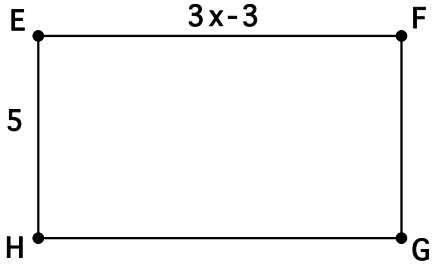
3. $\triangle TSR \cong \triangle WVU$. Find the lengths of $\overline{RS}$ and $\overline{UV}$.



4. $\triangle ABC$ is similar to equilateral $\triangle DEF$. What is the measure of $\angle ABC$?

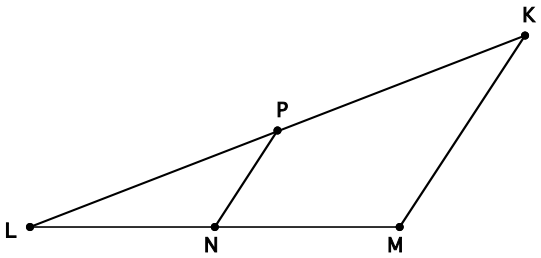
5. Quadrilateral *ABCD* is similar to quadrilateral *EFGH*. Find the lengths of $\overline{EF}$.



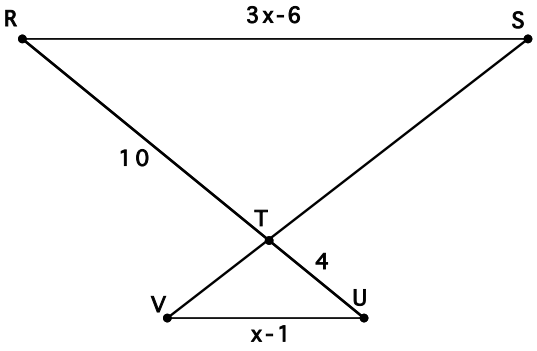


6. $\triangle GHI$ has sides with lengths of 6 in., 10 in., and 11. Similar $\triangle JKL$ has sides with lengths of 15 in., 25 in., and x in. Find the value of x.

7. $\triangle PLN$ is similar to $\triangle KLM$. Find the length of $\overline{LP}$.
$\overline{PN} = 6, \overline{KM} = 9, \overline{PL} = 6w - 2, \overline{KL} = 7w + 1$

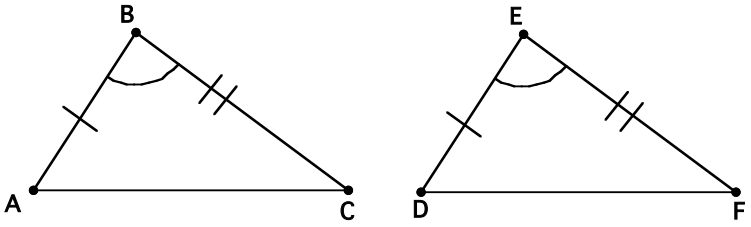


8. $\triangle RST$ is similar to $\triangle UVT$. Find the length of $\overline{UV}$.

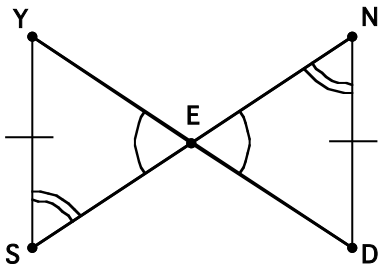


9. For each part of problem 9, determine whether the triangles are congruent by SSS, SAS, ASA, or not necessarily congruent. Write a brief statement as to how you know your answer is correct, and write the congruency between the two triangles. Each part of problem 9 is worth 3 points.

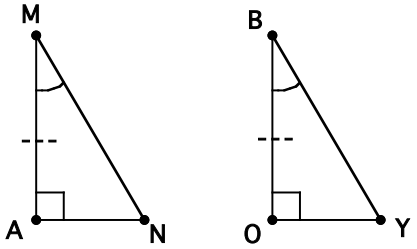
a.



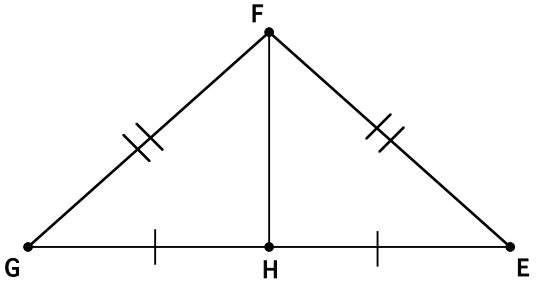
b.



c.

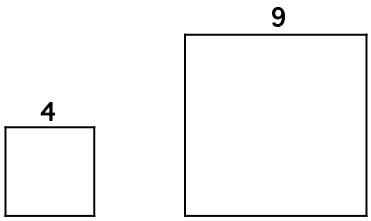


d.



Open-Ended Question: Make sure as you answer the open-ended question that you show your work AND explain how you know you are doing the correct work. YOU MUST EXPLAIN WHAT YOU ARE DOING!!!

The figures are both squares.



A. What is the ratio of the perimeter of the smaller figure to the perimeter of the larger figure?

B. What is the ratio of their areas?

C. Below we have two octagons. Based on what you saw from parts A and B, determine the ratio of the perimeter and area of the smaller figure to the larger figure.